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Press release

OQ TECHNOLOGY concludes its TIGER-1 Mission Successfully and Embarks on Global 5G Satellite Alliance

OQ Technology, a Luxembourg based satellite IoT start-up, is the first company in the world to have successfully demonstrated and tested the transmission and reception of Narrowband-IoT (NB-IoT) waveform (the technology used for 5G Massive Machine Communication) using Low Earth Orbit satellites with its TIGER-1 mission. Following the experiment, several global operators this year tested the same technology on Geostationary satellites, signalling a growing market and ecosystem.

In 2019, OQ Technology signed a contract with Luxembourg based company GomSpace to implement its TIGER-1 mission. The TIGER-1 mission made use of two shoebox-size 6U nanosatellites (GOMX-4A and GOMX-4B) and its on-board SDR payload which can be programmed in space. This mission is also a pathfinder to OQ's upcoming satellite mission dubbed as MACHine SATellite (MACSAT) in collaboration with the European Space Agency.

OQ Technology has successfully performed 26 experiments (downlink and uplink) between November 2019 and April 2020 to prove the technical feasibility of NB-IoT waveform over LEO satellite. The company with its "in-house" innovative developed software algorithms has achieved the reception of downlink signals, successful synchronization, and uplink transmission of NB-IoT waveforms. OQ Technology has also proven that the satellite channel over LEO orbit is indeed favourable for implementation of NB-IoT over satellites and provided valuable data about the link budget that will help in the design of mobile user terminals and future payloads.

Since April this year, the company has joined the global 5G standardization group (3GPP) which will pave the way for a promising future for OQ Technology to further its mission of providing standardized solutions for global 4G/5G IoT connectivity over Non-Terrestrial Networks (NTN). NB-IoT technology is also backed by 3GPP and OQ will work side by side with global satellite and mobile operators to set the standard for a ubiquitous 5G IoT system that allows users to connect seamlessly anywhere in the world using both mobile and satellite networks. OQ Technology will present TIGER-1 mission results during the upcoming 10th Advanced Satellite Multimedia Systems Conference (ASMS) that took place on 20th October.

"OQ Technology offers a unique business proposition to underserved IoT customers: on one side we use a standard global mobile technology over satellites tapping into an existing ecosystem, NB-IoT offers advantages such as quality of service, security, reliability, and higher data rates in licensed spectrum compared to other proprietary non-scalable and interference full wireless technologies in unlicensed bands that does not guarantee a stable solution – On the other side we also exploit Low Earth Orbits (500 Km above Earth) that provide low latency communication to time critical applications that cannot be served over classical Geostationary orbit satellites (36,000 Km). We are very proud to have achieved this result which has not been possible without the continuous professional and business oriented support of Luxembourg Space Agency, we look forward to our next mission" – Omar Qaise, Founder & CEO of OQ Technology.